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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,017	12/16/2005	Junichi Arami	283278US26PCT	5969
22850 7590 08/10/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER EGGERDING, MATTHEW THOMAS	
			ART UNIT 1763	PAPER NUMBER
			NOTIFICATION DATE 08/10/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/561,017

Applicant(s)

ARAMI, JUNICHI

Examiner

Matthew Eggerding

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20051216.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 4-5 and 14-15 in the reply filed on 2 July 2007 is acknowledged. The traversal is on the ground(s) that the inventions form a general inventive concept. This is found to be persuasive and the restriction requirement has been withdrawn. The current Office Action covers all pending claims 4-15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

A. Claims 4, 6-8, 14, and 15

Claims 4, 6-8, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,904,872 to Arami et al. ("Arami") in view of US 6,407,371 to Toya et al. ("Toya").

For claim 4, Arami teaches a mounting table 1 comprising a heating unit including a reflector plate 21 made of an opaque quartz, a mounting table cover member 11 installed to cover the whole heating unit, and a target object being mounted thereon, wherein the mounting table cover member is made of a light absorbing material. (See, for example, Fig. 1-4).

Arami does not teach a quartz tube welded to a surface of the reflector plate, wherein a carbon wire which generates heat when a current is applied thereto is inserted in the quartz tube.

Toya teaches a quartz tube welded to a surface of the reflector plate, wherein a carbon wire which generates heat when a current is applied thereto is inserted in the quartz tube. (See, for example, Fig. 13, 14).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a carbon wire and quartz tube heater as the heater in Arami.

The suggestion/motivation would have been that carbon wires eliminate the contamination associated with metallic heating elements. (See, for example, Toya, col. 1, lines 4-55).

For claim 6, Arami teaches a mounting table 1 including a heating unit having a reflector plate 21 made of an opaque quartz, a mounting table cover member 11 installed to cover the whole heating unit, a target object being mounted thereon, wherein the mounting table cover member is made of a light absorbing material; a processing chamber 41 accommodating therein the mounting table 1; a gas supply unit

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45 for supplying a gas in the processing chamber; and a vacuum pumping system 50 for evacuating the processing chamber.

Arami does not teach a quartz tube welded to a surface of the reflector plate, wherein a carbon wire which generates heat when a current is applied thereto is inserted in the quartz tube.

Toya teaches a quartz tube welded to a surface of the reflector plate, wherein a carbon wire which generates heat when a current is applied thereto is inserted in the quartz tube. (See, for example, Fig. 13, 14).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a carbon wire and quartz tube heater as the heater in Arami.

The suggestion/motivation would have been that carbon wires eliminate the contamination associated with metallic heating elements. (See, for example, Toya, col. 1, lines 4-55).

For claims 7 and 14, Toya teaches that the quartz tube is bent. (See, for example, Fig. 13-15).

Regarding claim 8 and 15, Toya teaches that the quartz tube is divided and welded to a plurality of zones on the surface of the reflector plate. (See, for example, Fig. 15).

B. Claim 5

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arami and Toya as applied to claim 4 above, and further in view of US 5,612,132 to Goela et al. ("Goela").

Arami teaches a mounting table cover member made of silica. (See, for example, col. 2, lines 15-16).

Neither Arami nor Toya teaches that the mounting table cover member is SiC.

Goela teaches that SiC is a light-absorbing material. (See, for example, col. 1, lines 32-35).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to form the mounting table cover member from SiC.

The suggestion/motivation would have been both silica and SiC are light-absorbing materials.

C. Claims 9-13

Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,369,361 to Saito et al. ("Saito") in view of Arami.

Saito teaches a mounting table 11 on which a target object is mounted; a processing chamber accommodating therein the mounting table; a gas supply unit 24 for supplying a gas in the processing chamber; a vacuum pumping system 25 for evacuating the inside of the processing chamber; a target object heating unit 60 for heating the target object; an inner vessel 1 installed in the processing chamber; a heating unit 40, installed between the inner vessel and an inner wall of the processing chamber, for heating the inner vessel, wherein the inner vessel is made of a light absorbing material, and the heating unit includes a reflector plate 3, and a quartz tube 4 welded to a surface of the reflector plate, a carbon wire which generates heat when a current is applied thereto being inserted in the quartz tube. (See, for example, Fig. 1-3).

Saito does not specifically state that the reflector plate is made of opaque quartz.

Arami teaches a reflector plate of opaque quartz. (See, for example, Fig. 1-4).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize opaque quartz as the reflective plate in Saito.

The suggestion/motivation would have been that opaque quartz is a well-known reflector.

For claim 11, Arami teaches a target object heating unit that is integrally embedded in the mounting table. (See, for example, Fig. 1-4).

For claims 12 and 13, Saito teaches the quartz tube is bent, divided, and welded to a plurality of zones on the surface of the reflective plate. (See, for example, Fig. 8).

D. Claim 10

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Saito and Arami as applied to claim 9 above, and further in view of Goela.

Saito teaches that the inner vessel is made of quartz. (See, for example, Fig. 1).

Neither Saito nor Arami teaches that the inner vessel is made of SiC.

Goela teaches that SiC is a light-absorbing material. (See, for example, col. 1, lines 32-35).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to form the inner vessel from SiC.

The suggestion/motivation would have been both quartz and SiC are light-absorbing materials.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Eggerding whose telephone number is (571) 272-8012. The examiner can normally be reached on Monday-Friday, 8:30 AM-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


MTE


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PRIMARY EXAMINER